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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,513	10/03/2003	Werner Juengling	MI22-2391	1971
21567	7590	04/20/2005	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			KEBEDE, BROOK	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary

Application No.

10/678,513

Applicant(s)

JUENGLING, WERNER

Examiner

Brook Kebede

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 40-47 and 51-55 is/are allowed.
- 6) ☒ Claim(s) 48-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/11/04; 2/10/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Terminal Disclaimer

1. The terminal disclaimer filed on January 18, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,395,623 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 48-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Dennison (US/5,637,525).

Re claim 48, Dennison discloses a semiconductor processing method comprising: forming a conductive line (18) (i.e., a gate line) over a substrate (12), the conductive line (18) having a conductive portion (19 20) (see Fig. 1) and silicon nitride material (23) over the conductive portion (19 20), and silicon oxide material (30) over the silicon nitride material forming encapsulation material over the conductive line (18); and in a common masking step, etching a doping window opening (36 37) (over a substrate (12) active area adjacent the conductive line and removing at least some of the encapsulation material over the conductive line and some of the silicon nitride material (23) over the conductive portion (19 20) of the conductive line (18) to form contact opening to the conductive line (38) (see Figs. 1-8).

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Re claim 49, as applied to claim 48 above, Dennison discloses all the claimed limitations including gas diffusion doing though the doping window opening into the substrate (see Figs. 1-8).

Re claim 50, Dennison discloses a semiconductor processing method comprising: forming a conductive word line (18) over a substrate (12); forming a silicon nitride layer (23) over the word line; forming a silicon oxide layer (30) over the silicon nitride layer; forming encapsulation material (32) over the silicon oxide layer (30), the silicon nitride layer (23) and the conductive word line (18); selectively removing at least some of the encapsulation material relative to the silicon oxide layer; and selectively removing at least some of the silicon oxide layer relative to the layer wherein the selectively removing forms at least part of a silicon nitride contact opening over the word line (see Figs. 1-8).

Allowable Subject Matter

4. Claims 40-47 and 51-55 allowed over prior art of record.
5. The following is a statement of reasons for the indication of allowable subject matter:

Claim 40-47 and 51-55 are allowed in view of the Terminal Disclaimer filed on January 18, 2005. Furthermore, the prior art of record neither anticipates nor renders obvious the claimed subject matter of the instant application as a whole either taken alone or in combination, in particular, prior art of record does not teach “etching the oxide material, the nitride material and the sidewall spacers at substantially the same rate, the etching outwardly exposing at least one portion of the substrate active area into which p-type impurity is to be provided; the etching also forming a contact opening over a portion of the conductive word line which overlies a field isolation region,” as recited in claim 40, “etching to remove portions of the nitride material line

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over the conductive gate line to form a contact opening thereto and to remove portions of the oxide material over the substrate active area to expose source/drain regions into which p-type impurity is to be provided, the etching removing the nitride material and the oxide material at substantially the same rate,” as recited in claim 45, and “anisotropically etching both the nitride material and the oxide layer at substantially the same rate to respectively define a contact opening to the conductive gate line and a doping window over the substrate active area adjacent the gate line,” as recited in claim 51 respectively.

Claims 41-44, 46, 47, 51, 54 and 55 are also allowed as being dependent of the allowed independent base claim.

Conclusion

6. **THIS ACTION IS MADE NON-FINAL.**

Correspondence

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (571) 272-1862. The examiner can normally be reached on 8-5 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (571) 272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brook Kebede
Examiner
Art Unit 2823

BK
April 17, 2005